SPACE CENTER
Roundup

May 18, 2001

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Sunny days!

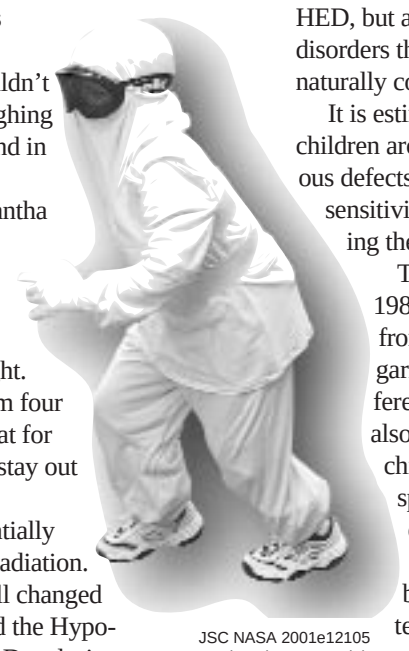
Thanks to NASA space-based technology, child with four rare skin diseases can now play in the daylight

By Melissa Davis

Cardi Hicks couldn't keep from laughing as he ran around in the bright sunshine.

His mother Samantha Hicks couldn't keep from crying as she watched her 8-year-old son play outside in the daylight.

Cardi suffers from four rare skin diseases that for years forced him to stay out of the sun and its potentially harmful ultraviolet radiation. However, that has all changed thanks to NASA and the Hypohidrotic Ectodermal Dysplasia (HED) Foundation.



JSC NASA 2001e12105
photo by James Blair

On April 23 at Regents Park, Cardi received a special UV blocking suit that was developed from NASA space-based technology. The suit allows him to go outside protected from harmful light.

The little boy from Magnolia, Texas, was all smiles when presented with the suit by HED foundation Founder and President Sarah Moody as members of JSC's Office of Technology Transfer and Commercialization looked on. His mother thanked the two organizations for giving her son a chance to live a much fuller life.

"It's a very special endeavor for us to have been involved in," said David Haines, a member of the Office of Technology Transfer and Commercialization.

Although Cardi was covered from head to toe in the white garment once he was suited up, there was no stopping the giddiness of a child finally set free to play in the sunlight.

The UV blocking suits give children like Cardi freedom to be fun-loving and active for the first time in their lives. "The UV suit/cooling garment is an outstanding example of NASA-developed technology with a meaningful real-life application here on earth," Haines said.

HED is a medical disorder characterized by the lack of sweat glands. The HED Foundation works not only to improve the quality of life for children suffering from HED, but also for children with other disorders that affect the body's ability to naturally cool itself.

It is estimated that several thousand children around the world suffer from various defects that cause either extreme sensitivity to light or problems in cooling their bodies.

The HED Foundation began in 1986 when Moody sought help from NASA in finding a cooling garment for her nephew, who suffered from HED. The foundation also provides cooling garments to children with multiple sclerosis, spina bifida, cerebral palsy and other disorders.

In 1997, JSC, seeking a broader use for spacesuit technology, offered Moody the concept for the UV blocking garment. The first three suits distributed were prototypes provided by NASA to the foundation. The foundation has since provided more than 15 additional UV blocking suits.

While Moody works many hours running the not-for-profit HED Foundation, she is quick to share the limelight. "I'm only the tool," she said. "If it had not been for NASA technology...these children would have to live their lives in the dark."

The predicament of children like Cardi deeply touches JSC's Haines, who has three children–ages 4, 5 and 7.

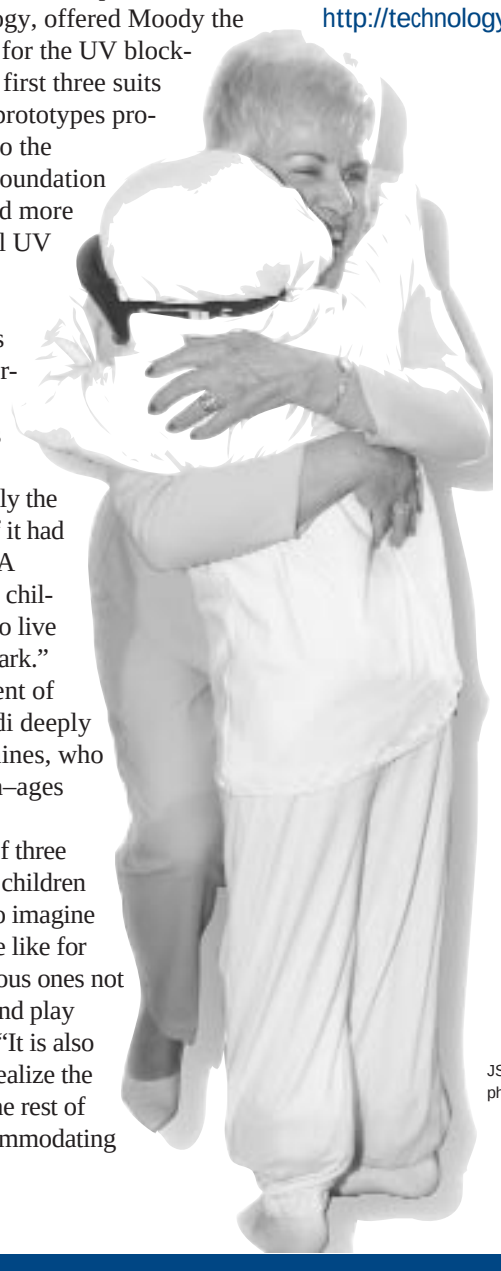
"As a parent of three small, very active children myself it is hard to imagine what life would be like for one of these precious ones not to be able to run and play outside," he said. "It is also very sobering to realize the implications for the rest of the family in accommodating such a debilitating condition."

Haines said it has been a privilege to be part of the technology transfer effort at JSC.

"To have been a small part of making a child's life more enjoyable in such a basic, but meaningful, way makes me feel very humbled, thankful for my own blessings and also very proud of our agency and our folks here at JSC having been involved." ■

For more information about the HED Foundation, visit:
www.hedfoundation.org

For more information about the Office of Technology Transfer and Commercialization, visit:
http://technology.jsc.nasa.gov/index.htm



Cardi Hicks, who suffers from four skin diseases, can now play in the sun thanks to NASA and the Hypohidrotic Ectodermal Dysplasia (HED) Foundation. At left, Cardi was recently presented a special UV blocking suit, which was developed from NASA space-based technology, by Sarah Moody, HED Foundation's founder and president. At right, Cardi is being suited up by his mother Samantha Hicks, left; HED Foundation's Sarah Moody and Cardi's doctor, Bas Nair, M.D.

JSC NASA 2001e12102
photo by James Blair

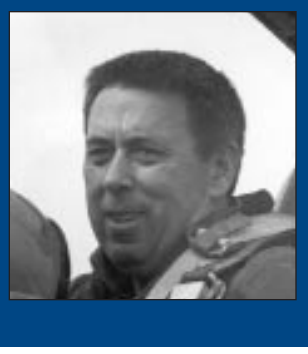
At-*a*-GLANCE

- The protective suit includes a white jacket, pants, gloves and headgear, including goggles.
- The external garments protect the child's sensitive skin from more than 99.9 percent of the sun's hazardous UV rays.
- Underneath the protective Earth-bound spacesuit, the child wears a small cooling support system, necessary because full-body UV suits can get warm.
- The cooling unit has no moving parts, using four gel packs in a vest-like garment. The gel packs can supply cooling for two to four hours and can be recharged in a refrigerator in about 30 minutes.
- Through an agreement with JSC's Office of Technology Transfer and Commercialization, NASA and the HED organization have worked together since 1997 providing suits to children who need them.
- The suits are designed to cost less than $2,000 and are now available in various colors.

JSC NASA 2001e12096 photo by James Blair

STS-100 delivers Canadarm2. Page 2

Astronaut David Walker remembered. Page 3



Special tribute to George Abbey. Page 4 & 5

Reaching our Destiny

STS100-E-5239 (April 22, 2001)

Astronaut Chris A. Hadfield, STS-100 mission specialist representing the Canadian Space Agency, stands on one Canadian-built robot arm to work with another one. Called Canadarm2, the newest addition to the ISS was ferried up to the orbital outpost by the STS-100 crew. Hadfield's feet are secured on a special foot restraint attached to the end of the Remote Manipulator System arm, which represents one of the standard shuttle components for the majority of the 100-plus STS missions thus far. The two EVAs by STS-100's crewmembers lasted a total of 14 hours, 50 minutes. There have been 64 in Shuttle Program history and 20 devoted to ISS assembly.

When Space Shuttle *Endeavour* and its crew of seven glided to a landing at Edwards Air Force Base on May 1, it concluded a successful 4.9 million-mile journey to deliver and install Canadarm2 to the International Space Station (ISS).

Canadarm2, a new-generation robotic arm supplied by the Canadian Space Agency, is longer, stronger, more flexible and more capable than the shuttle's robotic arm. The installation and check-out of the new ISS arm involved the most complex and intricate space robotics operations ever performed.

Mission specialists Chris Hadfield, a colonel in the Canadian Air Force, and NASA astronaut Scott Parazynski performed two space walks to install the Canadarm2 on the exterior of the station's Destiny Lab.

The *Endeavour* crew also helped transfer more than 6,000 pounds of supplies and equipment from the Italian Space Agency-supplied Raffaello Multi-Purpose Logistics Module.

Endeavour carried nine scientific investigations to the station, more than any previous flight. The experiments carried aboard the Space Shuttle range from the first plant growth research to be conducted aboard the complex to studies of space radiation.

The crew –composed of space fliers from NASA, Canada, Russia and the European Space Agency–was the most diverse international crew ever flown aboard the Space Shuttle. Its members represented more nations than has any other single crew.

Kent Rominger, a Navy captain and a veteran of four past shuttle flights– including one previous ISS assembly mission–was *Endeavour's* commander. Jeff Ashby, a Navy captain and veteran of one shuttle flight, was the pilot. Mission specialists included NASA astronauts Parazynski and John Phillips.

International crew members, also mission specialists, included Hadfield, European Space Agency astronaut Umberto Guidoni and Russian Aviation and Space Agency cosmonaut Yuri Lonchakov, a colonel in the Russian Air Force. During *Endeavour's* mission, Guidoni became the first European Space Agency astronaut to enter the orbiting ISS.

STS-100 was the ninth shuttle mission to visit the space station. JSC staff and the public at Ellington Air Force Base welcomed the crew home on May 2. ■

For more information, visit:
http://Spaceflight.nasa.gov/

ASSEMBLY SEQUENCE

▲ **Flight Control**

JSC2001-E-1219 (April 19, 2001) photo by Robert Markowitz

Left to right, astronaut Christopher J. 'Gus' Loria, astronaut Scott D. Altman, flight director Leroy Cain and flight director John Shannon keep up with STS-100 pre-launch activities from their consoles in the shuttle flight control room in the Mission Control Center. Altman is ascent spacecraft communicator (CAPCOM) and is assisted by Loria, CAPCOM specializing in weather issues. Cain is ascent flight director.

◀ **Astronaut Susan J. Helms, Expedition II flight engineer, greets members of the STS-100 crew in the Destiny laboratory just after hatch opening. Astronaut Jeffrey S. Ashby, STS-100 pilot, documents the reunion in the background.**

STS100-E-5290 (April 23, 2001)

▼ **Astronaut Hadfield is pictured on the aft flight deck of the *Endeavour* during an historic event. A Canadian 'handshake in space' occurred at 4:02 p.m. (CDT), April 28, 2001, as the Canadian-built space station robotic arm– operated by Expedition II flight engineer Susan J. Helms– transferred its launch cradle over to *Endeavour's* robotic arm, with Hadfield at the controls. The exchange of the pallet from station arm to shuttle arm marked the first ever robot-to-robot transfer in space.**

STS100-E-5901 (April 28, 2001)

STS100-E-5283 (April 23, 2001)

▲ **Astronaut James S. Voss, Expedition II flight engineer, peers into the Pressurized Mating Adapter prior to opening the hatch to the STS-100 crew.**

▼ **STS-100 and Expedition II crews**

STS100-E-5909 (April 23, 2001)

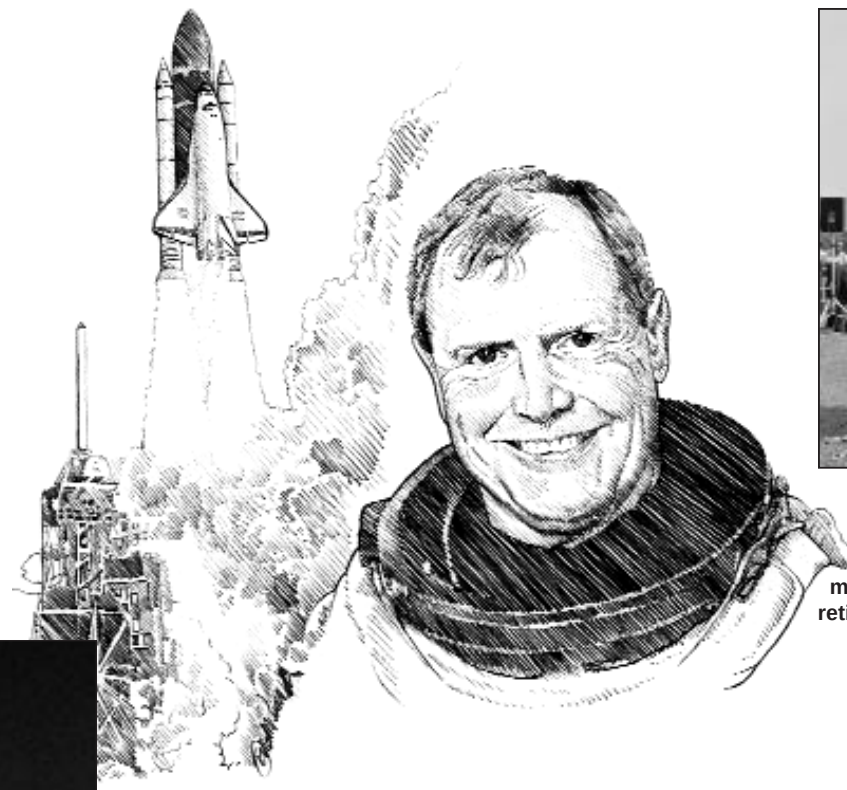
STS-100 FLIGHT 6A

DAVID WALKER, VETERAN NASA ASTRONAUT, DIES APRIL 23

David Mathieson Walker (Capt., USN, Ret.), veteran of four space shuttle missions including flights that rescued and deployed satellites, died April 23 following a sudden and brief illness. He was 56 years old.

Walker was selected by NASA in January 1978 and became an astronaut in August 1979. During his four missions he logged more than 700 hours in space.

"The NASA community has lost a great friend and an admired colleague," said Johnson Space Center Director (Acting) Roy S. Estess. "Highly and deservedly decorated for his many achievements both as a Navy captain and as a NASA astronaut, Captain Walker served his country with distinction. His successful shuttle missions were indispensable in helping NASA further the exploration of space and enhance life on Earth."



NASA JSC S95-12735

A memorial service was held at JSC on April 27 to remember veteran Astronaut David Walker, who recently passed away. A tree was planted in his memory. Walker flew on four Shuttle missions, and retired from NASA in 1996.

NASA JSC S95-12735

David Walker

To honor his memory, a tree-planting ceremony was held at JSC on Friday, April 27. The event included his family and friends sharing light-hearted memories of Walker.

Walker first served as pilot on STS 51-A, the second flight of the Space Shuttle *Discovery*, in November 1984. During the nearly eight-day flight, the crew deployed two communications satellites and conducted the first space salvage mission in history, retrieving two inoperable communications satellites for return to Earth.

In his first space flight as a shuttle commander, *Atlantis*' STS-30 mission in May 1989, Walker and his crew successfully deployed the Magellan spacecraft, the first planetary probe to be released from the space shuttle. Magellan arrived at Venus in August 1990 and mapped 95 percent of the surface of the planet. Crewmembers also worked on secondary payloads involving fluid research and chemistry during the four-day mission.

Walker next commanded a five-member crew on STS-53 in December 1992 aboard *Discovery*. His crew deployed a classified Department of Defense payload and performed experiments during its seven-day mission.

Walker flew his final mission as a shuttle commander in September 1995. The STS-69 crew deployed and retrieved two payloads during the nearly 11-day flight aboard *Endeavour*. The Wake Shield Facility, a saucer-shaped satellite that flew free of the shuttle for several days, was deployed to grow thin films in the near perfect vacuum created by the wake of the satellite as it moved through space. The other payload, the Spartan-201 astronomy satellite, helped researchers study the outer atmosphere of the Sun and its transition into the solar wind that constantly flows past the Earth. Crew-members also performed a six-hour space walk to test assembly techniques for the International Space Station.

Walker retired from NASA in April 1996. Until his illness, he served as the president of the Idaho Aviation Foundation, a non-profit corporation promoting general aviation in the state of Idaho.

Walker's honors and awards included the Defense Superior Service Medal, the Distinguished Flying Cross, the National Intelligence Medal of Achievement, the Legion of Merit, two Defense Meritorious Service Medals, six Navy Air Medals, the Battle Efficiency Ribbon, the Armed Forces Expeditionary Medal, the National Defense Service Medal, two NASA Distinguished Service Medals, the NASA Outstanding Leadership Medal, four NASA Space Flight Medals, the Vietnamese Cross of Gallantry, the Vietnam Service Medal and the Republic of Vietnam Campaign Medal.

Survivors include his wife, Paige, and two children, Michael and Mathieson. Interment will take place this month at Arlington National Cemetery. ■

In-*search*-OF

Due to the overwhelming response we received for our Mother's Day article, the Roundup is now requesting information for a Father's Day article. Do you know of any fathers who work, or have worked, with their children here at JSC? Tell us about them! Send your story idea information to Julie Burt, Roundup Assistant Editor, at julie.v.burt1@jsc.nasa.gov, or give her a call at (281) 483-8614. The submission deadline is May 23. We regret we cannot use every story idea submitted.

CHRIS KRAFT BOOKSIGNING

Chris Kraft Jr., NASA's first Flight Director, recently signed copies of his book *Flight: My Life in Mission Control* in Building 3. Dr. Kraft served as Flight Director for all the Mercury missions and many of the Gemini missions, and he was the director of JSC from January 1972 to August 1982. Many honors and awards have come to him from aeronautical research societies and universities. Sitting with Kraft is Mary O'Connell of the Exchange Operations office.

Expedition 1 Training Lead Dolores Rader and Houston Support Group-Moscow Lead Sean Fuller received the joint honor of hanging the Expedition 1 mission plaque in the Blue Flight Control Room in Building 30 from Expedition 1 Flight Directors Andy Algate and Jeff Hanley. The official plaque hanging is done after every mission. More information can be found at http://flightops.jsc.nasa.gov/fltdir/fdhome/fdhist/plaque.html

With a move to a newly appointed position, we take this opportunity to look back at the career of...

George

NASA JSC S67-50555
George W. S. Abbey in 1967.

NASA JSC S79-34039
Chief of Payload Operations, Charles Harlan and Director of Flight Operations, George Abbey in 1979.

1964

Abbey, a United States Air Force Captain, was assigned to the Manned Spacecraft Center on the Apollo Program.

1967

He left the Air Force to become a civilian employee of NASA, and was appointed Technical Assistant to the Apollo Spacecraft Program Manager, George Low. He served as the Secretary of the Apollo Configuration Control Board and was also responsible for all the Government Furnished Equipment, such as the space suits and crew equipment used by the astronauts. Two years later, Apollo 11 landed on the moon.

1970

During the Apollo 13 mission, Abbey was Technical Assistant to the Center Director. He was seated in the viewing room with Thomas K. "Ken" Mattingly when James "Jim" Lovell Jr.'s famous words–"Hey Houston, we've had a problem here"–came over the radio. Upon determining the seriousness of the situation, Abbey called Center Director Robert R. Gilruth and Director of Flight Operations Christopher C. Kraft, Jr., and advised them of the situation.

1973

On May 4, Skylab lost its thermal protection shield - an accident that nearly ended the program. Abbey worked to help devise a way to protect the orbital workshop from direct sunlight. His technical skill and management helped in the development of the parasol-type shield that helped control temperatures onboard Skylab.

1976

As Director of Flight Operations until 1985, Abbey established and chaired Astronaut Selection Boards. In 1978, the board selected 35 Astronaut Candidates from a group of 8,000 applicants, among whom were the first six women and first four members of minority groups to be astronauts.

1981

Abbey was Director of Flight Operations for the first Shuttle flight, STS-1, on April 12.

1985-1987

As Director of the newly formed Flight Crew Operations Directorate, he was a key player in agency response and the return to flight after the Challenger accident.

1988

While in the role of Deputy Associate Administrator for Space Flight at NASA Headquarters, Abbey resolved a critical problem for the future of the Shuttle Program. An explosion at a Nevada plant destroyed NASA's only source of ammonium perchlorate (a necessary ingredient for the operation of solid rocket boosters). Abbey worked with the Department of Defense to acquire enough of the chemical to support the upcoming Shuttle missions and developed a plan that assured a return to full production within one year.

1990

Abbey was appointed to a leadership position in the Synthesis Group chaired by former astronaut Lt. Gen. Tom Stafford, USAF (ret.). The group was charged with defining alternative architectures for returning to the Moon and landing on Mars, along with the critical technologies and early accomplishments that support the program.

1991

Abbey was appointed the Senior Director for Civil Space, National Space Council, Executive Office of the President, serving with the Space Council until April of 1992, when he became Special Assistant to the Administrator of NASA. He played an important role in defining and negotiating Russian participation in the redefined ISS program and the Shuttle-Mir program. As a result of this effort, the Vice President of the United States signed many new cooperative space initiatives between the United States and Russia.

1995

As Acting JSC Director, he designated a "stand-down" day for employees and contractors for the purpose of increasing safety awareness. That first Safety Awareness Day has evolved into an annual event.

1996

In January, Abbey was named Director of Johnson Space Center.

In February, NASA Administrator Daniel Goldin appointed JSC the "lead center" for station development and shuttle operations.

In November, Abbey continued the tradition and commitment to transferring space technology back to the public by opening its doors to more than 1,500 business and industry leaders for an "up-close" look at the center's capabilities and technologies. The NASA/JSC Inspection showcased space age technologies and expertise on Nov. 13-14 with more than 100 exhibits and programs in 17 buildings across the site.

1997

The Rotary National Award for Space Achievement Foundation presented Abbey with the National Space Trophy.

1998

Abbey worked with John Wilson, the Superintendent of the Clear Creek Independent School District, to establish an Intermediate School on the Center. Space Center Intermediate is the first of its kind. Its presence on JSC has allowed both the faculty and students to take advantage of the educational outreach activities of the Center.

2000

In November, after the work Abbey did solidifying the international partnership, the International Space Station reached one of what would be many milestones in its assembly when its first residents, the Expedition I crew, arrived to begin permanent human presence on the Station.

2001

In February, Mr. Abbey was reassigned to become the Senior Assistant for International Issues reporting to the Administrator.

NASA JSC S69-33873
Dr. Gilruth presents commendation award to George W. S. Abbey in 1969.

Leaving a legacy

Throughout his time with JSC, Abbey's commitment to safety and excellence has been profound. He launched the Executive Safety committee, the Contractor Safety Forum and the JSC Safety Action Team. Other initiatives include the Senior Manager's Safety Course and Safety Through Everyone's Participation courses, DuPont training and philosophy, a more vigorous mishap investigation process, the close call system and metric reporting. JSC was the first NASA center to become both ISO 9000 certified (1998) and receive OSHA's Voluntary Protection Program Star Status (1999). JSC then became the first government facility to be certified to the upgraded ISO 9001:2000 standard in March of this year.

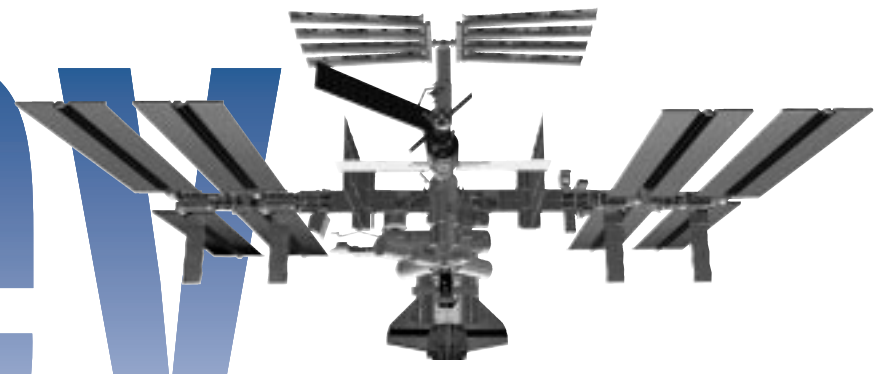
Abbey's enthusiasm for education has been apparent in his commitment to programs such as the KC-135 student campaigns, the Distance Learning Outpost, the Cooperative Education Program, Texas Aerospace Scholars, the SCIAD program and the Longhorn Project.

JSC's community involvement with events such as Open House, Inspection, the Houston Livestock Show and Rodeo, as well as work with the Clear Lake Area Economic Development Foundation show the important role that Abbey feels JSC should play in the larger community of Texas, the United States and the world.

Finally, Abbey has left his mark in the way NASA chooses astronauts. The selection process that was established under Abbey's leadership for the 1978 class has been the cornerstone for every astronaut selection program to the present time. Abbey's selection criteria emphasized the selection of individuals with broad, diverse backgrounds, who had demonstrated practical, operationally oriented work skills–skills that relate to the work astronauts do. From the 1978 class to the 2000 class, 34,414 applications have been evaluated, 1,415 individuals have been interviewed, and 237 new Astronaut Candidates (eleven classes) have been selected. The people selected have left their mark not just on NASA, but across the country, many in key roles in government, academia and private industry.

George Abbey's long and distinguished NASA career includes leadership positions during some of the agency's most proud and most trying occasions. From the tragedy of the Apollo 1 fire and the loss of Challenger, to the euphoria of landing an astronaut on the moon and the fulfillment of the International Space Station, Abbey has dedicated his time and technical expertise to NASA's success and the success of the U.S. space program. ■

Abbey



NASA JSC S80-30853
Abbey talks with John Young as he exits *Columbia* after STS-1 returns.

I started work in July 1978. My first assignment was as GNC controller for the Skylab re-entry, but I remember that my first yellow phone message from Mr. Abbey was to tell me the time and place of the next softball game for the FOD team. I played first base, and Mr. Abbey was the coach. He has continued to be "coach" for the last 23 years from astronaut to headquarters assignments to my current position. He has an unparalleled grasp of both the details and the big picture, with a coherent vision of the future of human spaceflight…

— Bonnie Dunbar, Assistant Director, University Research and Affairs

Having worked with, and for, George since he arrived at the MSC (now JSC) I know that his main objective is to champion the human exploration of space in the safest possible manner. To do human space exploration right, George is willing to listen to, and to fix, all the details and issues.

— Captain John Young
JSC Associate Director (Technical)

NASA JSC S84-26252
George Abbey, Director of Flight Crew Operations leaves Ellington Air Force Base by T-38 aircraft for Kennedy Space Center and the STS-11 mission on February 1, 1984.

Mr. Abbey's expectations were always extremely high, and people consistently strived to meet that level. He has forever left his mark on spaceflight and his legacy will be long remembered.

— Ron Dittemore
Space Shuttle Program Manager

NASA JSC S98-02887
JSC Director George Abbey joined Clear Creek Independent School District trustees in breaking ground for the new intermediate school on the grounds of JSC. From left are Dr. John Wilson, George Abbey, Sophia LeCour, Board of Trustees president and trustees Ralph Parr and Richard Labrecque.

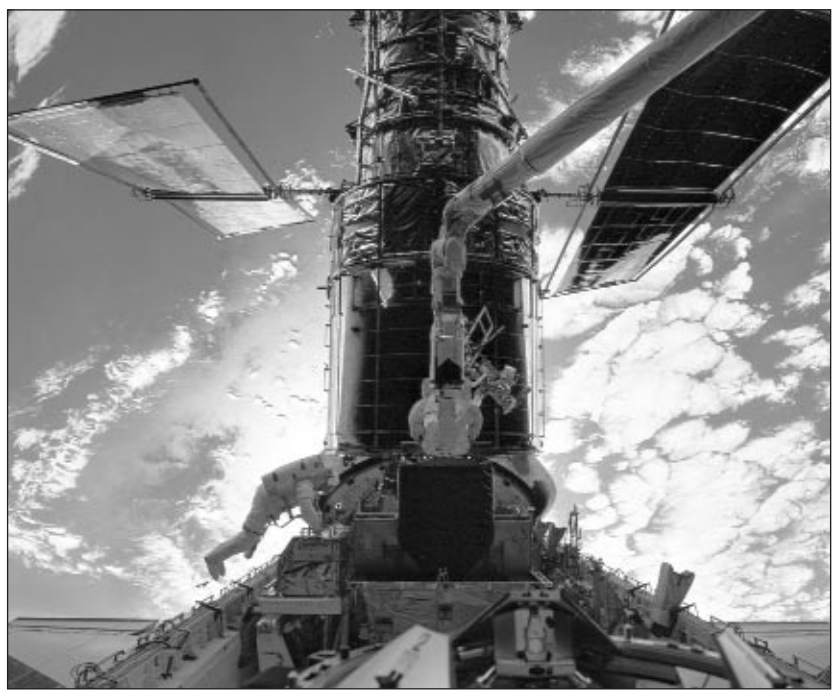
Mr. Abbey was always very clear that the space program belongs to all of America, and to build a stronger, more robust space program, we needed to move outside the gates. We should go out and engage the community.

— Greg Hayes, Human Resources

NASA JSC2000e21551
Employees and guests enjoy the year 2000 Open House.

The partnership programs between the Clear Creek Independent School District and NASA Johnson Space Center have been very beneficial for students in our community. We appreciate the leadership and vision of George Abbey in making possible these valuable educational opportunities.

—Dr. John E. Wilson, Clear Creek ISD
Superintendent of Schools



Astronauts C. Michael Foale, left, and Claude Nicollier (on *Discovery's* robotic arm) install a Fine Guidance Sensor (FGS) into a protective enclosure in the Shuttle's payload bay. Foale and Nicollier performed the second of three space walks to service the Hubble Space Telescope (HST) on the STS-103 mission. A large format camera inside *Discovery's* cabin was used to record this high-resolution image, while the Shuttle was orbiting above ocean and clouds.

NASA JSC STS-103-501-206

Ripped from the ROUNDUP

Ripped straight from the pages of old Space News Roundups, here's what happened at JSC on this date:

1961

May 19:

Soviet Academy of Sciences revealed that the pulse rate of Maj. Yuri Gagarin had risen to 158 beats a minute in his Vostok flight, according to a report circulated by Tass.

Cape Canaveral opened to the general public for the first time in history.

May 25:

President Kennedy, in a major message to Congress, called for a vastly accelerated space program based on a long-range national goal of landing a man on the moon and bringing him safely back to Earth. For this and associated projects in space technology, the President requested additional appropriations totaling $611 million for NASA and the Department of Defense.

X-15 flown to a record speed of 3,300 mph by NASA test pilot Joseph Walker at Edwards AFB, Calif.

1976

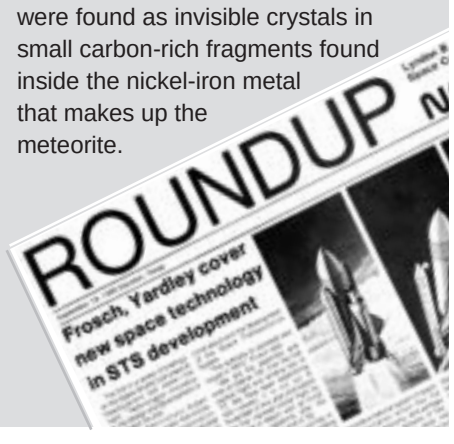
Materials that are planned for use as part of the Space Shuttle Orbiter heat-protection armor were recently subjected to the pressures of 2,300 degree F heat of 100 reentries with no damage, according to thermal specialists at JSC.

The shuttle orbiter which is designed for reuse up to 100 times without major refurbishment, will have four separate light-weight, reusable heat-resistant materials affixed to the exterior of the 122-foot long space plane. The thermal protection system (TPS) which will provide heat management as the vehicle speeds into orbit and returns to earth, consists of coated reinforced carbon-carbon (RCC) for nose cap and wing leading edges where temperatures exceed 2,300 degrees F.

1981

Tiny crystals of diamond, formed in an ancient cosmic catastrophe, have recently been found in a 10.4-kilogram (23-pound) iron meteorite collected from the Antarctic ice cap in 1977. The discovery was reported in the magazine *Nature* by Roy S. Clarke Jr., Daniel E. Appleman and Daphne E. Ross, all of the Smithsonian Institution's National Museum of Natural History.

The diamonds, a type of crystalline carbon that forms at high pressures, were found as invisible crystals in small carbon-rich fragments found inside the nickel-iron metal that makes up the meteorite.



SAFETY

'Sharp-en' your knowledge about bloodborne pathogens

By Jennifer Breland

Bloodborne pathogens (BBP) are microorganisms carried in the bloodstream, which can cause diseases such as HIV and Hepatitis B virus.

If you have taken the BBP class taught by the Hazcom Department of Occupational Health Services, then you know that disposing of sharps (such as syringes/needles, lances, broken glass, etc.) in the standard trash receptacle can lead to serious problems. As most know, Tolman–NASA/JSC's janitorial staff– must empty these receptacles on a daily basis. There have been instances where members of the Tolman staff have been punctured in the leg or other body parts because a sharp was not disposed of properly.

What is the proper way to dispose of a sharp? After it is used, a sharp should be placed in a puncture proof, Biohazard container. These containers are usually red with the Biohazard symbol. If a Biohazard container is not available, a regular trash bag may be used with a Biohazard label and some other type of puncture proof/resistant container, such as a cardboard box.

Broken glass may not start as a BBP hazard, but if someone emptying the trash is punctured or cut, they may create a potential blood exposure. If a box or other container is used, it is important to clearly label the container with a warning such as "Broken glass" or "Danger–contains sharp objects."

NASA/JSC has a BBP chapter in the Safety, Health and Environmental Protection Handbook (Chapter 404). Each contractor whose employees, by their job description, may be exposed to BBP should also have a specific plan.

There are people on site who must test their blood or self-administer medication throughout the day. These people need only to visit the Clinic in Building 8 and request a Biohazard container. The container is small enough to fit in a lower drawer or some other inconspicuous location. The Clinic asks only that the person keeps the container on site and returns it once it is full. They will gladly replace it and properly dispose of the filled container.

Keeping everyone on site safe from potential hazards is everyone's responsibility. Working together to protect our coworkers and ourselves should be our number one priority. For questions or registration for the full BBP class, call OHS at X36726. ■

Lockheed Martin's Science, Engineering, Analysis and Test (SEAT) program was the first Lockheed Martin organization ever to surpass 7.5 million hours without a lost-time incident. SEAT passed that milestone in January of this year. Above, JSC Deputy Director Bill Parsons and Cinda Chullen, Contracting Officer Technical Representative, congratulate Ken Reightler, vice president of SEAT Operation, for receiving an award presented to the SEAT program by Ken Asbury, senior vice president of Lockheed Martin Space Operations. Reightler said the award 'belongs to JSC,' as well as to SEAT employees, for the excellent example they set. Both Parsons and Reightler said the significance in the award is not in the number of hours worked without incident, but rather the fact that no one was injured during that period.

Free Melanoma & Skin Cancer Screenings
Provided by the Houston Dermatological Society
Saturday, May 19
10 a.m. to 1 p.m.
Gilruth Center Ballroom

This event is open to the public

GILRUTH CENTER NEWS

Sign-up policy:
All classes and athletic activities are on a first-come, first-served basis. Sign up in person at the Gilruth Center and show a yellow Gilruth or weight room badge. Classes tend to fill up two weeks in advance. Payment must be made in full, by cash or by check, at the time of registration. No registration will be taken by telephone. For more information, call x33345.

Gilruth badges:
Required for use of the Gilruth Center. Employees, spouses, eligible dependents, NASA retirees and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday and 9 a.m.-2 p.m. Saturdays. Cost is $12. Dependents must be between 16 and 23 years old.

Open from 6:30 a.m.-10 p.m. Monday-Thursday, 6:30 a.m.-9 p.m. Friday, and 9 a.m.-2 p.m. Saturday. Contact the Gilruth Center at (281) 483-3345.
http://www4.jsc.nasa.gov/ah/exceaa/Gilruth/Gilruth.htm

Nutrition intervention program: This is a free seven-week program designed to provide an understanding of the role diet and nutrition play in health. The program includes a series of lectures and private consultations with a dietitian. You will learn how to use dietary vitamins, minerals and herbal nutriceuticals for optimizing health. Classes are held on Wednesdays from 4 p.m. to 5 p.m. For details call Tammie Labiche, registered dietitian, at (281) 483-2980.

Defensive driving: One-day course is offered once a month at the Gilruth Center. Pre-registration required. Cost is $25. Call for next available class.

Stamp club: Meets every second and fourth Monday at 7 p.m. in Rm. 216.

Weight safety: Required course for employees wishing to use the Gilruth weight room. Pre-registration is required. Cost is $5. Annual weight room use fee is $105. The cost for additional family members is $58.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is $24 for eight weeks.

Step/bench aerobics: Low-impact cardiovascular workout. Classes meet from 5:25-6:25 p.m. Tuesdays and Thursdays. Cost is $40 for eight weeks.

Cardio-Kickboxing: Medium impact. Learn basic kicking and punching. Tuesday and Thursday 5:30 p.m. - 6:30 p.m. Cost is $40 for eight weeks.

Yoga stretching: Stretching class of low-impact exercises designed for people of all ages and abilities in a Westernized format. Meets Thursdays 5-6 p.m. Cost is $40 for eight weeks. Call Darrell Matula, instructor, at x38520 for more information.

Ballroom dancing: Classes meet Thursdays from 6:30-7:30 p.m. for beginner, 8:30-9:30 p.m. for intermediate and 7:30-8:30 p.m. for advanced. Cost is $60 per couple.

Fitness program: Health-related fitness program includes a medical screening examination and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

Aikido: Martial arts class for men and women. Beginners meet Monday 6:30 - 7:30 p.m and Wednesdays 5 - 6 p.m. Advanced students meet Tuesday and Wednesday 5 - 6:30 p.m. No special equipment is needed. Aikido teaches balance and control to defend against an opponent without using force. Classes run monthly. Cost is $45 per month. Visit a class for more information.

NEWS FROM WHITE SANDS

HOT OFF THE PRESSES

White Sand's National Management Association hosts high school speech contest

By Cheerie R. Patneaude

The local NASA White Sands Chapter of the National Management Association (NMA) hosted its annual high school speech contest on March 15. Four contestants presented original speeches based on the American Enterprise System.

In his speech "The Business of Success," Joseph Beltran ran the gamut of a young man in business from his first fast-food job to the last portfolio of an accomplished entrepreneur. Juliane Curry spoke out on "The Entrepreneur's Independence," where in "patents, profits, choice and competition, the sky is the limit. Or is it?" Stephanie Ramîrez, a tour guide in "Lights, Camera, Action! The Entertainment Industry," showed the audience how the entertainment industry directly impacts the American economy.

But it was Jessica Williams' speech "American Dreams Deferred" that captured the judges' and audience's attention when she asked: "What happens to an American Dream deferred? As tax-paying citizens, Americans know that paying taxes support this country and what this country is founded upon: The American Dream. The dream that the American enterprise system creates and makes possible, and the dream that can sometimes go terribly wrong, can dry up and can simply explode."

The Mayfield junior compared the 1929 stock market crash–with its rise of monopolies, big spending and the loss of small businesses–to today's bearish market.

She was selected to represent the NASA White Sands NMA Chapter at this month's Southwest Area Regional Competition in San Antonio, Texas. The second place winner was Ramîrez, with Curry placing third.

> ***The contest was an opportunity to support young people in our community, and definitely the best speech contest I've ever seen.***
>
> –Bob Baker, Honeywell Technology Solutions Inc. (HTSI) Program Manager

"The contestants prepared extensively, and that made competition much closer this year," said White Sands Manager Joe Fries. "All four contestants were very good. It was hard to guess who the winner was going to be. "

Steve McDougle, speech contest coordinator, said he believed the contest was "the toughest ever. Our contestant has a good chance at regionals and, hopefully, nationals."

The students represented Las Cruces Public School's Mayfield High School (Beltran, Ramîrez, and Williams) and Mesilla Valley Christian School (Curry).

"The contest was an opportunity to support young people in our community, and definitely the best speech contest I've ever seen," said Bob Baker, Honeywell Technology Solutions Inc. (HTSI) Program Manager. "Overall, it was a very close race, but (it was) encouraging to see the youth of Las Cruces taking an educational opportunity to compete in our contest and the nationals."

Joe San Filippo of HTSI was chief judge for the contest. He said, "The speakers were excellent. It was nice to see these high school students participating in something special."

Local members of Toastmasters International, who used the Judge's Code of Ethics and Judging Criteria in examining the contestants' speeches, judged the contest. "I'm always impressed with the quality of the student's speeches and with the time spent on preparations," said NMA President Ken Schaaf. "It's good to see students participating in positive activities like these." ■

Compliance with section 508 will affect JSC activities

The way JSC approaches electronic and information technology is changing.

The Access Board, which is an independent federal agency devoted to accessibility for people with disabilities, has issued accessibility standards for electronic and information technology under Section 508 of the Rehabilitation Act. All federal agencies have been directed to comply with these standards by June 21, 2001. Doing so will affect how business in this area will be handled at JSC.

The two areas of activity at JSC most likely to be affected are information technology procurement and the use of Web sites.

The Federal Acquisition Regulation (FAR) Council has published draft guidelines and received comments for the Section 508 regulations. The final rules should be in place before the June 21 deadline.

Procurement actions after that point must conform to the new regulations and will be subject to challenges related to degree of compliance. JSC Web sites, especially those available to the public, must provide access for people with vision impairments who rely on various assistive products to access computer-based information. Those products include screen readers, which translate what's on a computer screen into automated audible output, and refreshable Braille displays.

The standards do not prohibit the use of Web site graphics or animation. Instead, the standards aim to ensure that such information is also available in an accessible format. The law covers all types of electronic and information technology in use in the federal sector, including those used for communication, duplication, computing, storage, presentation, control, transport and production. Examples of electronic and information technology include, but are not limited to, computers, software, networks, peripherals and other types of electronic office equipment.

The law is not limited to assistive technologies used by people with disabilities. It also applies to all federal agencies when they develop, procure, maintain or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and the public to the extent it does not pose an "undue burden," and even in these cases adequate alternative access to the information must be provided.

As an enforcement mechanism, the law sets up an administrative process under which individuals with disabilities can file a complaint alleging that a federal agency has not complied with the standards. This process uses the same complaint procedures established under section 504 of the Rehabilitation Act, which covers access to federally-funded programs and services. It provides injunctive relief and attorney's fees to the prevailing party, but does not include compensatory or punitive damages. Individuals may also file a civil action against their agency if they feel it's warranted.

Anyone planning an IT procurement or establishing or maintaining a Web site should familiarize themselves with the Section 508 provisions. An excellent resource is the Access Board website at http://www.access-board.gov/news/508-final.htm.

Questions can also be addressed to Steve Gorman of the JSC CIO Office or Jessie Hendrick of EEOP Office.

Graduate opportunities for Summer and Fall 2001

Interested in pursuing an advanced degree? Here are some academic opportunities available at JSC. The University of Houston system will present briefings and Q&A for all interested students.

MONDAY, MAY 21, 2001:
UNIVERSITY OF HOUSTON SYSTEM

- University of Houston (UH)
- UH-Clear Lake (UHCL)
- UH-Downtown (UHD)
- UH-Victoria (UHV)

Building 12, Room 262 Briefings
11 a.m.-12 p.m. and 12:15-1:15 p.m.

- Master of Industrial Engineering/Engineering Management (UH)
- Master of Electrical Engineering (UH)
- Fundamentals of Engineering and Professional Engineering FE&PE (UH)

Building 12, Room 256 Briefings
11a.m.-12 p.m. and 12:15-1:15 p.m.

- Master of Science in Software Engineering (UHCL)
- Master of Science in System Engineering (UHCL)

Building 12, Room 188 Briefings
11 a.m.-12 p.m. and 12:15-1:15 p.m.

- Master of Science in Computer Science (UH)
- Master of Business Administration Online (UHV)
- All other UH System Distance Education program information

Because JSC strongly supports academic training for its employees, we will pay for the tuition and fees of up to six hours per semester. Civil servants may have their courses paid up-front by submitting approved Applications for Training, JSC Form 75, to UH. If you have questions about how JSC supports these or other academic programs, please contact Kay Westfall x33072 or Susan White x37011.

UH Live ITV Classes On Site

SUMMER I Session 2001
FINA 6387 - 06597
Managerial Analysis

SUMMER III Session 2001
INDE 6337-06636
Human Factors System Design

FALL Session 2001
COSC 6360 - 11756
Operating Systems
ECE 7373 - 02319
Advance Topics in Computer Architecture
FINA 6387 - 11783
Managerial Analysis
INDE 6325 - 11261
Industrial Ergonomics
INDE 6335 - 02635
Ergonomics Administration

Visit the Web site:
http://hro.jsc.nasa.gov/training/courses/academic.htm for additional information such as course descriptions and prerequisites

Interested in Distance Learning?

Please see the listing of the latest distance learning courses available at JSC. Visit the Web site:
http://hro.jsc.nasa.gov/training/courses/academic.htm.

UCCS Distance Learning Courses

SUMMER Session 2001

- MAE 4001 Engineering Analysis for Space Operations
- MAE 5091 Space Environment
- MAE 5095 Modeling and Simulation
- MAE 5410 Fundamentals of Astrodynamics
- MAE 5460 GPS Principles and Applications
- MAE 5594 Space Communications Systems Design

For additional information and Fall 2001 offerings visit the UCCS Website:
http://mae.uccs.edu/

DATES & DATA

May 18
Chess Club meets: The Space City Chess Club meets each Friday evening - May 18 and 25 and June 1 and 8 - from 5:30 p.m. until 9 p.m. at the Clear Lake United Methodist Church, 16335 El Camino Real, room 423. All skill levels are welcome. For more information, please call James Mulberry at x39287 or James Termini at x32639.

May 23
Spaceland Toastmasters meet: The Spaceland Toastmasters meets on Wednesday mornings at 7 a.m. at the House of Prayer Lutheran Church 1515 Bay Area Blvd at Reseda. For more information, contact Ava Sloan at 713-768-6336 or asloan@hal-pc.org

Spaceteam Toastmasters meet: The Spaceteam Toastmasters meet on Wednesdays at 11:30 a.m. at United Space Alliance, 600 Gemini. For more information contact Patricia Blackwell at (281) 280-6863.

May 24
Communicators meet: The Clear Lake Communicators, a Toastmasters International club, meets on Thursdays at 11:30 a.m. at Wyle Laboratories, 1100 Hercules, Suite 305. For more information contact Allen Prescott at (281) 282-3281 or Richard Lehman at (281) 280-6557.

May 31
Radio Club meets: The JSC Amateur Radio Club meets at 6:30 p.m. at Piccadilly, 2465 Bay Area Blvd. For details contact Larry Dietrich at x39198.

June 4
CLA-NSS meets: The Clear Lake area chapter of the National Space Society meets at 6:30 p.m. at the Parker Williams Branch of the Harris County Library at 10851 Scarsdale Blvd. For more information contact Murray Clark at (281) 367-2227.

NSBE meets: The National Society of Black Engineers meets at 6:30 p.m. at Texas Southern University, School of Technology, first floor. For more information contact Kimberly Topps at (281) 280-2917.

June 5
Quality Society meets: The Bay Area Section of the American Society for Quality meets at 6 p.m. at Franco's Restaurant. For more information contact Ann Dorris at x38620.

June 7
Warning System Test: The site-wide Employee Warning System performs its monthly audio test at noon. For more information contact Bob Gaffney at x34249.

June 8
Astronomers meet: The JSC Astronomical Society meets at 7:30 p.m. at the Center for Advanced Space Studies, 3600 Bay Area Blvd. For more information contact Chuck Shaw at x35416 or go to the website: http://www.ghg.net/cbr/jscas/

June 12
IAAP meets: The Clear Lake/NASA Chapter of the International Association of Administrative Professionals will hold its 2001-2002 Installation at 5:30 p.m. in the Colonial Room at Grace Community Church, 14325 Crescent Landing. Contact Frances Jackson 281 929 1001 or fjackson@cprk.com for more information.

Aero Club meets: The Bay Area Aero Club meets at 7 p.m. at the Houston Gulf Airport clubhouse at 2750 FM 1266 in League City. For more information contact Larry Hendrickson at x32050 or checkout www.bayareaaeroclub.org.

June 13
MAES meets: The Society of Mexican-American Engineers and Scientists meets at 11:30 a.m. in Bldg. 16, Rm. 111. For more information contact Margaret C. Delgado at 713-643-6097 or mcdelgad@aol.com.

Welcome neighbors!

Members of the Human Resources Education and Student Programs Branch (AH2) recently organized an Education Open House to introduce themselves and their programs to other members of the Human Resources Organization. Many of the new AH2 members are former Public Affairs Office employees that were reassigned to the Human Resources Office (HRO) last summer.

Since the new HRO Team Members were not able to immediately move in with their new organization due to space limitations, the Open House was timed to also celebrate the move to their new offices, now located in Building 12. This event offered both old and new members of Human Resources a chance to get to know each other and to learn more about their contributions to JSC, its employees and to its community. AH2 plans to hold a similar event for all JSC employees in the near future.

Pictured above mingling at the recent Education Open House event are Erika Guillory, Diane Hawkins, Donna Stuart, Gracie Torres and Anita Madrigal.

TICKET WINDOW

	JSC Price	Gate Price (includes tax)
AMC Theaters	$5.00	$7.50
Astroworld Early Bird (purchase by June 17)	$19.50	$38.96
Astroworld One Day Admission	$20.50	$38.96
Astroworld 2 Day Admission	$31.00	$43.29
Fiesta Texas Adult	$21.50	$38.82
Fiesta Texas Child (under 48")	$18.75	$19.42
Moody Gardens (2 events)	$10.75.**	$27.01 all day
** ticket does not include Aquarium Pyramid		
Moody Gardens - Aquarium only		$9.25
Sea World adult	$30.00	$36.75
Sea World child (ages 3-11)	$20.50	$25.93
Space Center Houston	$9.25	$16.18

JSC civil service employees free.

Check out our new Web site on the JSC People page at: http://hro.jsc.nasa.gov/giftshop/

Exchange Store hours
Monday-Friday
Bldg. 3 7 a.m.-4 p.m.
Bldg. 11 9 a.m.-3 p.m.

- All tickets are nonrefundable.
- Metro tokens and value cards are available.
- Sweetwater Pecans . . . . . $6.25 per lb.
- Chocolate-covered Pecans . . . $8.00 per lb.

For additional information, please call x35350.

Please bring your driver's license to pay by personal check.

NASA BRIEFS

NASA PREPARES FOR FIRST SCRAMJET-POWERED HYPERSONIC FLIGHT

Imagine a new breed of space transportation vehicle, able to fly at seven times the speed of sound, using a next-generation air-breathing jet engine. NASA takes a hypersonic leap into the future of aerospace technology with the flight of the scramjet-powered X43A.

The first unpiloted X-43A and its Pegasus booster rocket will be air-launched from a B-52 from NASA's Dryden Flight Research Center, Edwards, CA. The booster will accelerate the X-43A to Mach 7 at approximately 95,000 feet. At booster burnout, the X-43 will separate and fly under its own power on a pre-programmed flight path.

Unlike a rocket that carries its own oxygen for combustion, the X-43A's scramjet scoops air from the atmosphere, making the aircraft lighter, which enables it to carry heavier payloads. It will be the first time a non-rocket propelled, air-breathing engine has powered a vehicle in flight at hypersonic speeds, or five times the speed of sound.

For more information, see:

http://www.dfrc.nasa.gov/projects/hyperx/x43.html

NEW BOOMERANG FINDINGS REVEAL "MUSIC" OF THE EARLY UNIVERSE

An international team of cosmologists has begun to hear the "music of creation" in its discovery of acoustic "notes" in the sound waves that rippled through the universe not long after the Big Bang.
The new results–from a detailed analysis of high-resolution images obtained by the BOOMERANG (Balloon Observations of Millimetric Extragalactic Radiation and Geophysics) experiments–provide the most precise measurement to date of several of the key characteristics which cosmologists use to describe the universe.

The BOOMERANG images are the first to bring the cosmic microwave background (CMB) into sharp focus. The presence of these harmonic peaks bolsters the theory that the universe grew from a tiny subatomic region during a period of violent expansion a split second after the Big Bang.

BOOMERANG is an extremely sensitive microwave telescope suspended from a balloon that circumnavigated the Antarctic in late 1998. The balloon carried the telescope at an altitude of almost 37 kilometers (120,000 feet) for 10 1/2 days. The images were published just one year ago.

For more information on and images from BOOMERANG, see:
http://www.physics.ucsb.edu/~boomerang/
and
http://oberon.roma1.infn.it/boomerang

SPACE CENTER Roundup

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